PHYS 2102 General Physics for Technical Students II Lec. 3 Lab. 0 Cr. 3

Effective Date: Summer 2005-2006

Course Description

Prerequisite: A grade of "C" or better in both PHYS 2101 and MATH 1552. Credit will not be given for both this course and PHYS 2002. Calculus and vector analysis are used in the study of light, electricity and magnetism, and topics in modern physics.

Course Objectives

Students will:

1. Understand the fundamental principles of light, electricity, and magnetism.
2. Understand the applications of the principles in general and in modern physics.
3. Develop skills to model physical systems mathematically.
4. Develop the problem solving skill.

Procedures to Evaluate these Objectives

1. In-class problems after concept presentation
2. In-class exams
3. Cumulative final exam

Use of Results of Evaluation to Improve the Course

1. Student responses to in-class problems will be used to immediately help clarify any misunderstandings and to later adjust the appropriate course material.
2. All exams will be graded and examined to determine areas of teaching which could use improvement.
3. All evaluation methods will be used to determine the efficacy of the material presentation.

Detailed Topical Outline

1. Electric Charge and Electric fields
2. Electric potential
3. Capacitance and Dielectrics
4. Electric Current
5. Resistance
6. DC Circuits
7. Magnetic Fields and Magnetism
8. Induction
9. Geometric Optics and Optical images
8. Interference, Diffraction and Polarization of Light Waves
9. Relativity